

PRODUCTION & SALES REPORT

4Q22



P-71 |
Itapu Field

Highlights on production and sales in 4Q22

Rio de Janeiro, February 08, 2023

In 2022, we delivered an excellent operational performance, meeting all production targets for the year, with the following marks recorded:

Production	Accomplished	Target	Variation at the center of the target
Oil and NGL (Kbpd)	2,154	2,100 ± 4%	+ 2.6%
Oil, NGL and commercial natural gas (Kboed)	2,361	2,300 ± 4%	+ 2.7%
Total oil, NGL and natural gas (Kboed)	2,684	2,600 ± 4%	+ 3.2%

In 2022, we achieved an annual record in operated production, with an average of 3.64 MMboed. This result was mainly due to the start-up of FPSO Guanabara (Mero field) and P-71 (Itapu field), as well as to the continuity of the ramp-ups of P-68 (Berbigão and Sururu fields), FPSO Carioca (Sepia field), and FPSO Guanabara, all located in the pre-salt of the Santos Basin. Another contributing factor was the start-up of new wells in Campos Basin.

The highlights of 2022 were:

- Start-up of FPSO Guanabara, the first definitive system in the Mero field, in Santos Basin pre-salt, on April 30. We currently have 4 production wells interconnected and reached, on January 11, the nominal capacity of 180,000 bpd, just 8 months after the first oil.
- Start-up of P-71 in the Itapu field, in Santos Basin pre-salt, on December 21. The FPSO start-up was scheduled for 2023 and was brought forward vis-à-vis the expectation on the 2022-26 Strategic Plan. The unit has an oil processing capacity of 150,000 bpd and is expected to reach the project's nominal capacity in the second half of 2023.

"We ended 2022 with P-71 first oil earlier than expected, the sixth and last of the series of replicant platforms to come online, characterized by a standardized engineering design, with high production capacity and advanced technologies for operation and reduction of greenhouse gas emissions. This project brought us important lessons that prepare us for the challenges of the next units to come into operation", stated the Director of Production Development, João Henrique Rittershausen.

- Achievement of nominal production capacity on P-68, in the Berbigão and Sururu fields, in June 2022.
- Monthly production record by a pre-salt platform, set by FPSO Carioca, which reached average oil production of 174,000 bpd in November.
- Monthly oil production record in a single well in the pre-salt, reached by P-70 in November. In this month, well ATP-6 reached the historic mark of 56,500 bpd, confirming the high productivity of the Atapu field.
- Monthly and annual IUGA (Associated Gas Utilization Index) records, with respective marks of 98.0% achieved in October and 97.3% in 2022. These records make a significant contribution to emission reductions and greater carbon efficiency.

· Annual record in pre-salt own production, averaging 1.97 MMboed, representing 73% of Petrobras total production. This record was made possible, mainly, by ramp-ups and platforms that came online in the year. Our production in the pre-salt has been growing rapidly, and the record that was set represents an 83% increase compared to the volume we produced in this layer five years ago.

In 4Q22, the average production of oil, NGL and natural gas reached 2.65 MMboed, in line with 3Q22, mainly due to the ramp-up of FPSO Guanabara, the 10 days of production of P-71, and new wells in Campos Basin, effects that were partially offset by the higher volume of production reductions with maintenance and interventions; by the beginning of the decommissioning of platforms P-18, P-19, and P-20, as part of the Marlim field revitalization project; by divestments and by the assignment of 5% of the participation in the production sharing contract of the surplus volumes of the Transfer of Rights of the Búzios Field to CNOOC.

Total own production in the pre-salt, in 4Q22, was 1.98 MMboed, representing 75% of Petrobras total production. The total production operated by Petrobras, in turn, reached 3.70 MMboed in the quarter, 1.5% higher than the previous quarter, mainly due to the ramp-up of FPSO Guanabara and the start of production of P-71.

On November 25, FPSO Anna Nery arrived at the location in the Marlim Field. The Marlim 2 Revitalization FPSO will be the first unit of the revitalization project to start operating, with first oil planned for 1Q23. The second unit of the project planned to start operating, FPSO Anita Garibaldi, arrived on December 26 at Jurong Aracruz Shipyard (ES) for commissioning, inspections and final tests. The unit is scheduled to start operating in 2H23.

Also in 2023, we expect to start operations of FPSO Almirante Barroso, in 2Q23, and of FPSO Sepetiba, in 2H23. The FPSO Almirante Barroso, to be installed in the Búzios field, arrived at Brasfels Shipyard (RJ) on October 5 for the commissioning and acceptance test stages. Meanwhile, FPSO Sepetiba, to be installed in the Mero field, is undergoing integration and systems commissioning at BOMESC Tianjin shipyard, located in China.

On November 30, 2022, we concluded the assignment of 5% of Petrobras' interest in the Production Sharing Agreement of the Surplus Volume of the Transfer of Rights of the Búzios field to our partner CNOOC Petroleum Brasil Ltda. The deal was made effective with the signature of the Amendment to the Production Sharing Contract by the Ministry of Mines and Energy.

The agreement derives from the option to purchase an additional portion, exercised by CPBL on 09/29/2021, in the amount of \$1.9 billion received by Petrobras on 11/24/2022. As of 12/01/2022, Petrobras will hold 85% stakes in the Production Sharing Contract for the Surplus Volume of the Onerous Assignment of the Búzios field, while CPBL will hold 10% and CNODC Brasil Petróleo e Gás Ltda (CNODC), 5%. The stakes in the Búzios Shared Reservoir, including the portions of the Transfer of Rights Agreement and the BS-500 Concession Agreement (100% Petrobras), will be 88.99% Petrobras, 7.34% CPBL and 3.67% CNODC.

As part of our portfolio management strategy, we highlight the main transactions in 4Q22:

- Conclusion of the sale of the shares of Paran  Xisto S.A (Paran  Xisto) which was created to hold the Shale Industrialization Unit (SIX), located in S o Mateus do Sul, Paran , to Forbes Resources Brazil Holding S.A. on November 4, 2022.
- Conclusion of the sale of the shares of Refinaria de Manaus S.A., which was created to hold the Refinaria Isaac Sabb  (REMAN), located in Manaus, Amazonas, to Ream Participa  es S.A. on November 30, whose 46 mbpd capacity corresponded to 2.4% of our total refining park in 2022.
- Conclusion of the sale of all our stakes in a set of 11 concessions of onshore oil and gas production fields, with integrated facilities, located in the state of Sergipe, referred to as Polo Carm polis, to the company Carmo Energy S.A., on December 20, 2022.
- Conclusion of the sale of the totality of the stakes in the Papa-Terra production field, located in the Campos Basin, to the company 3R Petroleum Offshore S.A. (3R Offshore), on December 22, 2022.

The fields of Polo Carm polis and Papa-Terra and the Shale Industrialization Unit (SIX) together had an average production of 9.5 kbpd of oil and 131,000 m³/day of gas, from January to November 2022.

The total utilization factor (FUT) of the refining facilities was 88% in 2022, 5 p.p. above 2021, with a 66% share of diesel, gasoline and jet fuel in total production, 1 p.p. above 2021. This FUT represents a high utilization of our refining facilities, even though there were relevant scheduled stoppages in six refineries: REPLAN, REVAP, REDUC, REGAP, REPAR and RPBC. We carried out maintenance on more than 2,000 large pieces of equipment, in compliance with safety, environmental, and health requirements.

In 2022, pre-salt oils represented 62% of the refinery's throughput, setting a new record compared to the 59% processed in 2021. These streams yield high value oil products and have low sulfur content, contributing to emissions reductions.

In 2022, we will continue to develop the market for pre-salt streams with the aim of maximizing the value of Petrobras exports. In 4Q22, we carried out the first Mero export, opening a new market in Thailand.

B zios continues to be the main export stream, accounting for almost 50% of the volume exported in 2022. The global market coverage allowed the best arbitrage throughout the year, which was marked by high volatility and changes in flows due to the war in Ukraine.

The sales of S-10 Diesel have been growing consistently, representing 59% of the total diesel sales in 2022, an increase of 3 p.p. when compared to 2021. The share of S-10 Diesel in the total diesel production has been following the market's evolution, reaching 56% in 2022, a growth of 6 p.p. in relation to the previous year.

We set annual production records in 2022 for S-10 Diesel in the refining facilities as a whole (386 kbpd) and at REPLAN (97 kbpd), RPBC (52 kbpd), REGAP (42 kbpd), REFAP (41 kbpd) and REDUC (21 kbpd) refineries. Production records in 2022 were also set for gasoline at RPBC (51 kbpd) and REGAP (40 kbpd) refineries and for bunker at REPLAN (1,569 ktons) and LUBNOR (152 ktons).

In 2022, Petrobras' asphalt sales exceeded 2021 results by 22%. In October, REFAP registered a production record of asphalt of 34 ktons, 19% higher than the monthly record of 2017 and, in November, a sales record of this oil product of 30,6 ktons, 36% higher than the volume sold in September 2016, the month of the previous record. REVAP achieved in November its best monthly result of asphalt delivery in the last 8 years.

The RefTOP (World Class Refining) Program achieved significant results throughout 2022, which leveraged the competitiveness of Petrobras refining facilities towards greater energy efficiency and emissions reduction. The refineries' Greenhouse Gas Emissions Intensity (IGEE) continued to fall, from 39.7 kgCO₂e/CWT in 2021 to 37.9 kgCO₂e/CWT in 2022. The Energy Intensity decreased from 113.1 in 2021 to 107.5 in 2022. This contributed to a reduction in natural gas consumption of approximately 1 million m³/day in refining activities when compared to 2021.

In the refineries that are part of the RefTOP Program (RPBC, RECAP, REPLAN, REVAP and REDUC), the results were even more relevant. The IGEE fell from 38.2 kgCO₂e/CWT in 2021 to 36.4 kgCO₂e/CWT in 2022, while the IIE fell from 109.7 in 2021 to 105.4 in 2022.

These figures show that our emissions are falling as a result of the increasing efficiency of our operations. Also noteworthy is the start-up of new RefTOP investment projects, such as:

- new heat recovery exchangers in the Coking-I of REPLAN, reducing emissions by about 9 kt/y of CO₂e and saving approximately 13 km³/day of natural gas;
- increase in heat recovery at REVAP's Heat Recovery Boiler, with the potential to reduce emissions by about 30 kt/y of CO₂e and saving approximately 40 km³/day of natural gas;
- REVAP's Distillation top gas recovery system, reducing emissions by about 900 t/year of SO_x;
- new feedstock dispersers for REDUC's FCC, optimizing the production of gasoline and petrochemical products.

RefTOP's portfolio comprises 148 new projects, with an associated investment of US\$ 0.8 billion.

In 2022, we launched R5 Diesel in the market, with sales beginning in September, an initiative that is part of the BioRefining Program, which shall adequate our refining facilities for the low carbon transition. R5 Diesel is a fuel with 5% renewable content (of vegetable origin) in its composition, aimed at developing a new generation of products with lower carbon intensity and, therefore, lower Greenhouse Gas (GHG) emissions. The R5 Diesel showed reliability and good performance after six months of testing on a bus fleet in Curitiba (PR), proving its viability for large-scale marketing. Furthermore, in December, REPAR started the process for obtaining the international Sustainability Carbon & Certification (ISCC) for the renewable content of R Diesel. We plan to use co-processing for the production of R Diesel at the RPBC and REPLAN refineries, in São Paulo, and at REDUC, in Rio de Janeiro.

Regarding RPBC, we have planned in the 2023-27 Strategic Plan a facility entirely dedicated to the production of 100% renewable diesel and SAF. The new plant will have the capacity to produce 6,000 barrels per day of each product, in addition to green naphtha, a relevant input for the production of renewable plastics in the petrochemical segment.

We developed the CAP PRO Asphalt, a more efficient and sustainable product that can be used at significantly lower temperatures than usual, generating energy savings, and allowing a greater use of recycled asphalt material, allowing this oil product to have estimated carbon emissions up to 65% lower. The new product will be implemented throughout 2023, according to demand for roads renovation.

On December 31 we started the first fueling test of bunker with renewable content in a fleet ship, a mix of 90% volume of mineral bunker and 10% of biodiesel. The new fuel has the potential to reduce emissions of Greenhouse Gases (GHG) and the estimated percentage of reduction of CO₂e emissions of this mixture is about 7%. The goal of the test is to evaluate the use of this bunker for two months and the logistics challenges associated. The pioneering ship was *Darcy Ribeiro*, a Transpetro vessel hired by Petrobras.

The very large crude carrier (VLCC) night undocking maneuver at the Angra dos Reis terminal was rated regular after it was concluded without any deviation related to the safety of the navigation performed. The Technical Committee of the Marine Pilots of Rio de Janeiro issued a favorable report for the maneuvers. This test, carried out in October, allowed an eight-hour reduction in the pier occupancy rate.

We promoted initiatives to expand our markets through the new integrated logistics operation for the outflow of green petroleum coke through Imbituba-SC, an action implemented to export the product produced at REPLAN. In addition, we opened a new gasoline sales hub in Rondonópolis-MT, which is part of the strategy to strengthen the company's presence in the Midwest and, furthermore, we expanded our supply of bunker to third parties in Brazil with the resumption of its sale in Suape's port, in early January 2023. Previously, it was restricted to Petrobras fleet vessels.

1 - Exploration & Production

Thousand barrels of oil equivalent per day (kboed)	4Q22	3Q22	4Q21	2022	2021	Variation (%)		
						4Q22 X 3Q22	4Q22 X 4Q21	2022 X 2021
Crude oil, NGL and natural gas - Brazil	2,611	2,609	2,663	2,648	2,732	0.1	(2.0)	(3.1)
Crude oil and NGLs (Kbpd)	2,111	2,115	2,151	2,142	2,211	(0.2)	(1.9)	(3.1)
Onshore and Shallow water	71	71	92	74	99	-	(22.8)	(25.3)
Post-salt - deep and ultra deep	401	434	458	434	496	(7.6)	(12.4)	(12.5)
Pre-salt	1,639	1,609	1,601	1,635	1,616	1.9	2.4	1.2
Natural gas (Kboed)	500	494	513	505	521	1.2	(2.5)	(3.1)
Crude oil, NGL and natural gas -Abroad	35	35	41	37	42	-	(14.6)	(11.9)
Total (Kboed)	2,646	2,644	2,704	2,684	2,774	0.1	(2.1)	(3.2)
Total - comercial (Kboed)	2,325	2,329	2,404	2,361	2,460	(0.2)	(3.3)	(4.0)
Total - operated (Kboed)	3,703	3,647	3,487	3,641	3,570	1.5	6.2	2.0

In 4Q22, we kept a good operating performance, with the average production of oil, NGL and natural gas reaching 2,646 Mboed, roughly in line with 3Q22. This result was mainly due to the ramp-up of the FPSO Guanabara, production start-up of P-71 and new wells in the Campos Basin, partially offset by the higher volume of losses with maintenance and interventions, the decommissioning of Marlim platforms, divestments and by the farm out of a 5% stake in the production sharing contract of the Transfer of Rights surplus volumes of the Búzios Field to our partner CNOOC, effective as of the beginning of December.

Oil production in the pre-salt was 1,639 Mbpd, 1.9% higher than the previous quarter, mainly due to the ramp-up of FPSO Guanabara and the start-up of P-71, effects that were, as aforementioned, partially offset by the farm out of 5% of the Transfer of Rights' surplus volumes of the Búzios field.

Production in the post-salt was 401 Mbpd, 7.6% lower than the previous quarter, mainly due to the higher volume of losses due to maintenance and interventions, to the shutdowns for the decommissioning of platforms P-18, P-19, and P-20, in addition to the natural decline in production, effects that were partially offset by the start-up of production from new wells in Campos Basin.

Meanwhile onshore and shallow water production was 71 Mbpd, in line with 3Q22.

Overseas production was 35 Mboed, from fields in Bolivia, Argentina and the United States, in line with 3Q22.

2 - Refining, Transportation and Marketing

Operational (kbpd)	4Q22	3Q22	4Q21	2022	2021	Variation (%)		
						4Q22 X 3Q22	4Q22 X 4Q21	2022 X 2021
Total production volume	1,724	1,750	1,910	1,743	1,852	(1.5)	(9.7)	(5.9)
Total sales volume in the domestic market	1,796	1,798	1,848	1,753	1,806	(0.1)	(2.8)	(2.9)
Reference feedstock	1,882	1,897	2,082	1,893	2,153	(0.8)	(9.6)	(12.1)
Processed feedstock	1,584	1,629	1,798	1,619	1,740	(2.8)	(11.9)	(7.0)
Processed feedstock utilization factor (%)*	84%	86%	86%	86%	81%	(2.0)	(2.0)	5.0
Total distillation feedstock	1,626	1,669	1,824	1,659	1,775	(2.6)	(10.9)	(6.5)
Total refining plants utilization factor (%)*	86%	88%	88%	88%	83%	(2.0)	(2.0)	5.0
Processed feedstock	1,624	1,674	1,846	1,662	1,780	(3.0)	(12.0)	(6.6)
Domestic crude oil as % of total processed feedstock	90%	90%	92%	91%	92%	-	(2.0)	(1.0)

Sales of oil products in 4Q22 were in line with 3Q22, reflecting higher gasoline and jet fuel sales and lower sales of other oil products. The increase in gasoline sales was due to the seasonality of consumption and greater competitiveness of the product. Higher jet fuel sales were due to the recovery from the impact of COVID-19 on the aviation market. The reduction in sales of other oil products in 4Q22 was mainly due to the seasonality of diesel consumption and the sale of additional amounts of naphtha in 3Q22.

In relation to the output of oil products, there was a decrease of 1.5% in 4Q22 compared to 3Q22 due to the scheduled stoppages of REPAR's distillation and coke units and the divestment of REMAN.

Our production in 2022 had a reduction of only 6% and sales fell 3% when compared to the previous year, even with the divestment of RLAM at the end of 2021, which represented around 13% of our total refining capacity.

2.1 – Diesel

thousand barrels per day (kbpd)	4Q22	3Q22	4Q21	2022	2021	Variation (%)		
						4Q22 X 3Q22	4Q22 X 4Q21	2022 X 2021
Production volume	671	697	732	691	726	(3.8)	(8.4)	(4.9)
Sales volume for the Brazilian market	769	784	790	755	801	(1.9)	(2.7)	(5.8)

Diesel sales decreased by 2% in 4Q22 compared to 3Q22, mainly due to the seasonality of consumption, higher in 3Q22 due to the planting of the summer grain crop and increased industrial activity. Additionally, the divestment of REMAN, concluded in November 2022, also impacted the evolution of sales between quarters. These effects were partially mitigated by the reduction in imports from third parties.

S-10 diesel sales in 4Q22 accounted for 60.3% of total diesel sales, surpassing the 3Q22 record of 58.6%, and setting a new quarterly record.

In October, we registered record sales of S-10 diesel at REFAP, surpassing the previous record in July 2022 by 9%. Additionally, we obtained record production of this product in November at REPLAN and in December at REFAP and RPBC.

* Processed feedstock utilization factor is calculated only with oil and C5 +. Total refining plants utilization factor considers the entire load in the distillation units, consisting of oil, C5 +, waste, reprocessing, including terminals. Processed feedstock consists of oil and NGL.

**In 4Q22, approximately 11 p.p. are relative to third-party purchases

In 4Q22, diesel production decreased by 3.8% compared to 3Q22, mainly on account of the scheduled stoppages of REPAR's distillation and coke units.

In 2022, diesel sales decreased compared to 2021 due to the divestment of RLAM, completed in November 2021.

2.2 – Gasoline

thousand barrels per day (kbpd)	4Q22	3Q22	4Q21	2022	2021	Variation (%)		
						4Q22 X 3Q22	4Q22 X 4Q21	2022 X 2021
Production volume	401	391	430	388	409	2.6	(6.8)	(5.1)
Sales volume for the Brazilian market	447	405	463	407	409	10.4	(3.5)	(0.4)

Gasoline sales in 4Q22 grew 10.4% compared to 3Q22. The month of December stands out, with the highest daily sales since February 2017 and the highest sales in that month since December 2016, even after the divestments of RLAM and REMAN. The growth follows the typical seasonality of the last quarter, caused by the greater movement of light vehicles by the end of the year. There was also a gain in share of gasoline over hydrous ethanol due to its increased competitiveness in the flex fleet option. This same factor offset the effect of divestments, rendering total sales in 2022 practically stable in relation to 2021.

In 4Q22, gasoline production grew 2.6% compared to 3Q22, following the market performance.

In December, REVAP broke the historic record of type A gasoline delivery to the local market, surpassing the previous mark of August 2012 by 6.4%. In the accumulated result for the year, the refinery broke the historical record for product delivery, surpassing the 2017 record by 3%.

In 2022, production decreased 5.1% compared to 2021, mainly due to the divestment of RLAM.

2.3 – Fuel Oil

thousand barrels per day (kbpd)	4Q22	3Q22	4Q21	2022	2021	Variation (%)		
						4Q22 X 3Q22	4Q22 X 4Q21	2022 X 2021
Production volume	216	205	292	215	280	5,5	(25,9)	(23,0)
Sales volume for the Brazilian market	32	35	61	34	61	(8,6)	(47,5)	(43,9)

Fuel oil sales in 4Q22 fell 8.6% compared to 3Q22, mainly due to lower deliveries to the industrial segment in the North region.

There were no sales to thermoelectric generation in the last three quarters of 2022, the main factor behind the sharp drop compared to 2021.

We achieved record bunker production in December at REPLAN.

Compared to 2021, production in 2022 was mainly impacted by the divestment of RLAM.

2.4 – Naphtha

thousand barrels per day (kbpd)	4Q22	3Q22	4Q21	2022	2021	Variation (%)		
						4Q22 X 3Q22	4Q22 X 4Q21	2022 X 2021
Production volume	80	86	77	83	76	(6.9)	4.2	9.5
Sales volume for the Brazilian market	63	80	67	73	69	(21.3)	(6.0)	6.5

Naphtha sales in 4Q22 decreased by 21.3% compared to 3Q22 due to the sale of additional volumes in Rio Grande do Sul and Bahia in 3Q22, provided for in the current contracts, a fact that increased the basis for comparison.

In 4Q22, naphtha production dropped 6.9% compared to 3Q22, following the performance of sales.

As a result of a petrochemical plant shutdown in 2021, total sales for 2022 increased by 6.5% compared to the previous year, even with the divestment of RLAM.

2.5 – Liquefied Petroleum Gas (LPG)

thousand barrels per day (kbpd)	4Q22	3Q22	4Q21	2022	2021	Variation (%)		
						4Q22 X 3Q22	4Q22 X 4Q21	2022 X 2021
Production volume	121	119	126	116	122	1.4	(4.1)	(5.0)
Sales volume for the Brazilian market	213	218	214	211	228	(2.3)	(0.5)	(7.6)

In 4Q22, LPG sales fell 2.3% compared to 3Q22, mainly due to seasonal factors: higher average temperatures and lower industry consumption in 4Q22. The 7.6% reduction in sales in 2022 compared to the previous year is mainly due to the divestment of RLAM and the greater participation of third parties in the market.

In 4Q22, production was in line with 3Q22, but in 2022 there was a 5.0% reduction compared to 2021, also due to the divestment of RLAM.

In the accumulated result for the year, REVAP broke the historical record for LPG delivery, surpassing the 2020 record by 1.5%.

2.6 – Jet Fuel

thousand barrels per day (kbpd)	4Q22	3Q22	4Q21	2022	2021	Variation (%)		
						4Q22 X 3Q22	4Q22 X 4Q21	2022 X 2021
Production volume	73	73	88	79	70	(0.6)	(17.2)	12.7
Sales volume for the Brazilian market	104	99	92	98	74	5.1	13.0	31.7

The 5.1% increase in jet fuel sales in 4Q22 compared to 3Q22 is mainly due to the continued recovery of the aviation segment after the negative impact of COVID-19. Sales volume in 4Q22 was a record since the beginning of the pandemic (2Q20), even with the divestments of RLAM and REMAN. The 31.7% annual growth in sales in 2022 is also due to the negative impact of COVID-19 on the aviation market in 2021.

In 2022, production followed the trend of increasing sales volume compared to 2021.

3 - Gas & Power

Operational	4Q22	3Q22	4Q21	2022	2021	Variation (%)		
						4Q22 X 3Q22	4Q22 X 4Q21	2022 X 2021
Sale of Thermal Availability at Auction-Average MW	2,052	2,052	2,383	2,053	2,438	-	(13.9)	(15.8)
Generation of electricity - average MW	658	466	3,526	859	3,419	41.2	(81.3)	(74.9)
National gas delivery (MM m ³ /day)	34	35	44	35	43	(2.9)	(22.7)	(18.6)
Regasification of liquefied natural gas (MM m ³ /day)	1	5	24	6	23	(80.0)	(95.8)	(73.9)
Import of natural gas from Bolivia (MM m ³ /day)	18	15	20	17	20	20.0	(10.0)	(15.0)
Sales volume of natural gas - MM m ³ /day	53	54	87	57	85	(1.9)	(39.1)	(32.9)

In 4Q22, electricity generation by Petrobras increased by 41% compared to 3Q22, due to the return to operation of Termorio power plant in October 2022, after a scheduled shutdown.

The supply of natural gas in 4Q22 remained at 53 MM m³/day level, with a reduction of 4 MM m³/day in regasification of LNG and an equivalent increase in the import of natural gas from Bolivia.

Natural gas sales and domestic consumption remained at the level of the previous quarter.

In 2022, electricity generation by Petrobras reduced by 75% compared to 2021, due to the recovery of hydroelectric reservoir levels. For the same period, there was a 16% reduction in the volume of availability at auction, due to the termination of contracts in 4Q21 and the divestment of the Northeast oil power plants (Arempebe, Bahia 1 and Muricy) carried out in 2021.

In 2022, Petrobras signed the contracts for the country's first capacity reserve auction, referring to 2,207 MW of power. These contracts represent the recontracting of 41% of the capacity of our generating complex and are expected to start in July 2026.

The lower volume of gas delivered by Petrobras to the market in 2022, compared to 2021, was also due to the reduction in Petrobras' purchase contracts with partner producers and third parties, as well as the divestments concluded during the year. As a result, these producers began to sell their volumes directly to distributors and consumers. In the same period, there was a 15% reduction in the import of Bolivian gas and 74% in the volume of regasified LNG, in line with the scenario of lower thermoelectric dispatch using natural gas.

Exhibit I: Consolidated Sales Volume

Sales volume (kbpd)	4Q22	3Q22	4Q21	2022	2021	Variation (%)		
						4Q22 X 3Q22	4Q22 X 4Q21	2022 X 2021
Diesel	769	784	790	755	801	(1.9)	(2.7)	(5.7)
Gasoline	447	405	463	407	409	10.4	(3.5)	(0.5)
Fuel oil	32	35	61	34	61	(8.6)	(47.5)	(44.3)
Naphtha	63	80	67	73	69	(21.3)	(6.0)	5.8
LPG	213	218	214	211	228	(2.3)	(0.5)	(7.5)
Jet Fuel	104	99	92	98	74	5.1	13.0	32.4
Others	168	177	163	175	164	(5.1)	3.1	6.7
Total oil products	1,796	1,798	1,850	1,753	1,806	(0.1)	(2.9)	(2.9)
Alcohols, nitrogenous, renewable and others	3	3	3	3	4	-	-	(25.0)
Petroleum	153	202	83	202	24	(24.3)	84.3	741.7
Natural gas	277	295	364	305	352	(6.1)	(23.9)	(13.4)
Total domestic market	2,229	2,298	2,300	2,263	2,186	(3.0)	(3.1)	3.5
Exports of petroleum, oil products and	793	528	701	714	811	50.2	13.1	(12.0)
Sales of international units	50	59	53	56	46	(15.3)	(5.7)	21.7
Total external market	843	587	754	770	857	43.6	11.8	(10.2)
Grand total	3,072	2,885	3,054	3,033	3,043	6.5	0.6	(0.3)

Exhibit II: Net imports and exports

Thousand barrels per day (kbpd)	4Q22	3Q22	4Q21	2022	2021	Variation (%)		
						4Q22 X 3Q22	4Q22 X 4Q21	2022 X 2021
Net export (import)	357	87	374	321	444	310.3	(4.5)	(27.7)
Import	436	441	327	393	367	(1.1)	33.3	7.1
Petroleum	183	145	138	164	154	26.2	32.6	6.5
Diesel	127	171	106	118	118	(25.7)	19.8	-
Gasoline	46	26	27	25	20	76.9	70.4	25.0
GLP	54	55	40	63	65	(1.8)	35.0	(3.1)
Other oil products	26	44	16	23	10	(40.9)	62.5	130.0
Export	793	528	701	714	811	50.2	13.1	(12.0)
Petroleum	614	363	440	513	575	69.1	39.5	(10.8)
Fuel oil	174	125	233	181	197	39.2	(25.3)	(8.1)
Other oil products	5	40	28	20	39	(87.5)	(82.1)	(48.7)

In 4Q22, net exports increased by 310% compared to 3Q22, mainly because of higher exports of oil and fuel oil due to ongoing exports. In addition, there was less import of oil products, mainly diesel, due to the seasonality of consumption. Net exports in 2022 fell 28% compared to 2021, mainly because of lower oil exports due to reduced production, in addition to lower fuel oil exports as a consequence of the divestment of RLAM in 2021.

Disclaimer

This release may include forecasts that are subject to uncertainties. Such forecasts, which address the Company's expected business and financial performance, among other matters, contain words such as "believe," "expect," "estimate," "anticipate," "optimistic," "intend," "plan," "aim," "will," "may," "should," "could," "would," "likely," and similar expressions. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date on which they are made. There is no assurance that the expected events, trends or results will actually occur, therefore future results of the Company's operations may differ from current expectations and the reader should not rely exclusively on the information contained herein. We undertake no obligation to publicly update or revise any forward-looking statements, whether as a result of new information or future events or for any other reason. The values reported for 4Q22 onwards are estimates. The operational data contained in this release is not audited by the independent auditor.